

# MONITOR SPEAKERS

# MS16



[www.behringer.com](http://www.behringer.com)



ENGLISH

## User's Manual

Version 1.0 August 2003

# MONITOR SPEAKERS MS16

## IMPORTANT SAFETY INSTRUCTIONS

### DETAILED SAFETY INSTRUCTIONS:



This symbol, wherever it appears, alerts you to the presence of uninsulated dangerous voltage inside the enclosure—voltage that may be sufficient to constitute a risk of shock.



This symbol, wherever it appears, alerts you to important operating and maintenance instructions in the accompanying literature. Please read the manual.

#### CAUTION:

To reduce the risk of electrical shock, do not remove the rear section. No user serviceable parts inside; refer servicing to qualified personnel.

#### WARNING:

To reduce the risk of fire or electrical shock, do not expose this appliance to rain or moisture.

### WARNING

THIS EQUIPMENT IS CAPABLE  
OF DELIVERING SOUND  
PRESSURE LEVELS IN EXCESS  
OF 90 dB, WHICH  
MAY CAUSE PERMANENT  
HEARING DAMAGE.

1) Read these instructions.

2) Keep these instructions.

3) Heed all warnings.

4) Follow all instructions.

5) Do not use this device near water.

6) Clean only with a dry cloth.

7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10) Protect the power cord from being walked on or pinched particularly at plugs, extension cords, and the point at which they exit the unit.

11) Only use attachments/accessories specified by the manufacturer.

12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the device. When a cart is used, use caution when moving the cart/device combination to avoid injury from stumbling over it.



13) Unplug this device during lightning storms or when not used for long periods of time.

14) Refer all servicing to qualified service personnel. Servicing is required when the unit has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the device, the unit has been exposed to rain or moisture, does not operate normally, or has been dropped.

# MONITOR SPEAKERS

**2-Way Active Personal Monitor System**

- ▲ Compact stereo speaker system ideally suited for home studios, multimedia applications, keyboard and vocal monitoring etc.
- ▲ Powerful 4" woofer and high-resolution tweeter powered by two 8-Watt amplifiers
- ▲ Dedicated volume, bass and treble controls for more flexibility
- ▲ Stereo RCA inputs for sound cards, keyboards etc. which can be used simultaneously with second stereo source (e.g. CD/MD player) through 1/8" TRS stereo input
- ▲ Separately adjustable 1/4" TRS microphone input mixable with stereo inputs for playback and vocal monitoring applications
- ▲ 1/8" TRS headphone connector with auto-mute loudspeaker function
- ▲ Magnetically shielded for placement near computer monitors
- ▲ Designed in Germany. Manufactured under ISO9000 certified management system

# **MONITOR SPEAKERS MS16**

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## **1. INTRODUCTION**

Thank you very much for expressing your confidence in us by purchasing the BEHRINGER MONITOR SPEAKERS MS16. The MS16 are active loudspeakers that can be used in a variety of applications, e.g. for your computer setup, MIDI studio or to monitor your keyboards and playbacks. For utmost flexibility, the MS16 feature a broad range of connection options. Two stereo inputs enable you to connect two sound sources. Additionally, we have equipped the MS16 with headphones and microphone connectors so you will enjoy the allround features of your monitor speakers.

### **1.1 Shipment**

The MS16 were carefully packed at the assembly plant to assure secure transport. Should the condition of the cardboard box suggest that damage may have taken place, please inspect the unit immediately and look for physical indications of damage.

 **Damaged units should NEVER be sent directly to us. Please inform the dealer from whom you acquired the unit immediately as well as the transportation company from which you took delivery of the unit. Otherwise, all claims for replacement/repair may be rendered invalid.**

### **1.2 Initial operation**

Please make sure the unit is provided with sufficient ventilation, and never place the MS16 on top of an amplifier or in the vicinity of a heater to avoid the risk of overheating.

 **Before plugging the unit into a power socket, please make sure that the voltage corresponds to the voltage stated on the label on the backside of your MS16.**

Power is delivered via the cable attached to the unit. All required safety precautions have been adhered to.

### **1.3 Warranty**

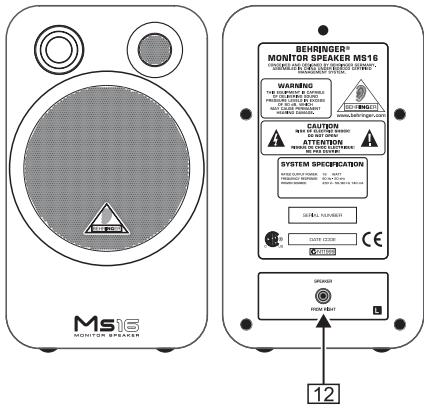
Please take a few minutes and send us the completely filled out warranty card within 14 days of the date of purchase. You may also register online at [www.behringer.com](http://www.behringer.com). The serial number needed for the registration is located on the rear of the unit. Failure to register your product may void future warranty claims.

## **ATTENTION!**

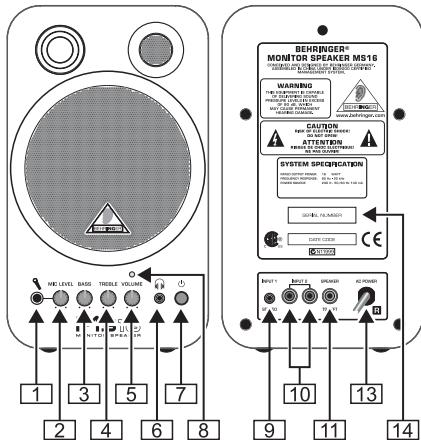
 **The MS16 loudspeakers are capable of producing extreme volumes. Please bear in mind, that high sound pressures do not only temporarily damage your sense of hearing, but can also cause permanent damage. Be careful to select a suitable volume.**

## 2. CONTROL ELEMENTS AND CONNECTIONS

**Left speaker**



**Right speaker**



*Fig. 2.1: Control elements and connections*

- [1] **MICROPHONE INPUT** (1/4" TRS). This connector allows you to connect your dynamic microphone.
- [2] Turn the **MIC LEVEL** control to adjust the volume of your microphone. This control should be set fully counterclockwise when connecting a microphone. When all connections are made, slowly start raising gain.
- [3] **BASS** control. Turn the bass control to adjust the bass level.
- [4] **TREBLE** control. Turn the treble control to adjust the treble level.
- [5] Turn the **VOLUME** control to adjust the volume level of the devices connected to your MS16.
- ☞** We would like to bring your attention to the fact that high volume levels may damage your hearing and/or your headphones. Please turn the **VOLUME CONTROL** all the way to the left before powering up the unit. Please always pay keen attention to an **appropriate** volume level.
- [6] Connect your headphones via the **PHONES** output (1/8" TRS) to monitor any of the input devices. When headphones are connected, the internal loudspeakers are automatically switched off.
- [7] The **POWER** switch turns the unit on or off. The **POWER** switch should always be in the "Off" position when you are about to connect your unit to the mains.
- ☞** Please note that the **POWER** switch does not disconnect the device from the mains. If the device is not in use for a long period of time, please disconnect it from the mains by unplugging the power cord from the power socket.
- [8] The **POWER LED** lights up when power is switched on.
- [9] **INPUT 1** (1/8" TRS) allows you to connect audio equipment such as CD/MD players.

# MONITOR SPEAKERS MS16

- [10] Use *INPUT 2* (RCA) to connect your soundcard, keyboard or expander.
- ☞ You can play back various signals by using both stereo inputs simultaneously.**
- [11] *SPEAKER TO LEFT* connector. Connect both speakers by using the speaker cable included in this package. As soon as both speakers are properly connected, they will function as a stereo speaker system.
- [12] *SPEAKER FROM RIGHT* connector. Insert the speaker cable from the *SPEAKER TO LEFT* connector.
- [13] *AC POWER* input. Connects your MS16 to the power source. Before you connect the unit to the power source make sure that the power switch is turned off and the volume control is turned to the far left position to avoid any damage to speakers or any other device.
- [14] *SERIAL NUMBER*. Please take the time to fill in and return the warranty card within 14 days after the date of purchase, so as to benefit from our extended warranty. Or register online at ([www.behringer.com](http://www.behringer.com)).

## 3. WIRING AND APPLICATION EXAMPLE

The MONITOR SPEAKERS MS16 are designed to accommodate a variety of different connector types for almost any situation you may encounter.

You will find all audio inputs on the right speaker. The left speaker only has one audio input which is fed from the right speaker.

First of all, you should connect the left to the right speaker by wiring the attached speaker cable from the right speakers' *SPEAKER TO LEFT* connector to the *SPEAKER FROM RIGHT* connector of the left speaker.

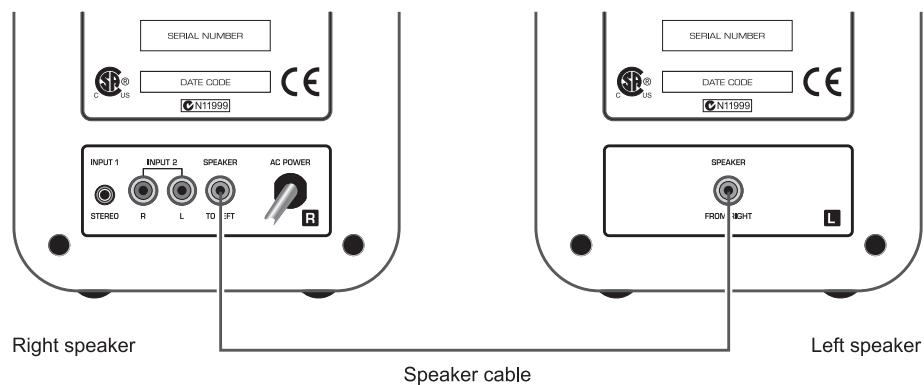
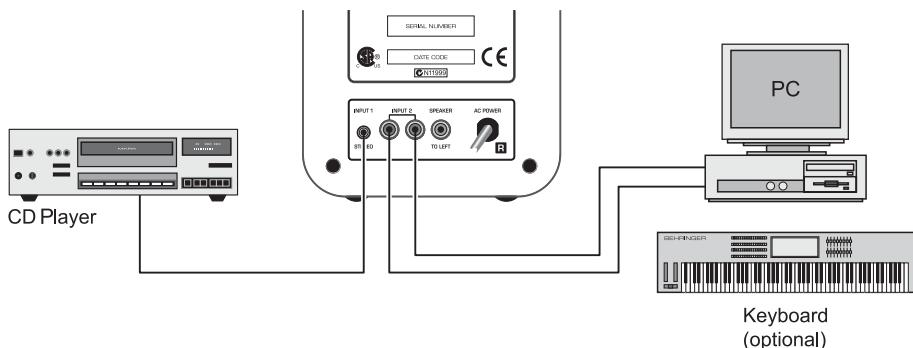


Fig. 3.1: Wiring of left and right loudspeaker

Connect your soundcards' speaker outputs to the MS16 stereo input. Of course, you can also connect your keyboard or mixer to this input.

If you own an additional sound source—such as CD or MD player—simply connect it to the second stereo input. Both input signals are mixed in the MS16 which enables you to monitor two different sound sources simultaneously.



*Fig. 3.2: Computer/keyboard setup*

The MS16 are magnetically shielded which allows you to place them near your computer monitor without causing interference or damage.

Do not place your MS16 near power amps to avoid induced hum. To avoid feedback noise, do not get too close to the speakers with a microphone. In case of feedback, change the position of the microphone relative to the speakers or reduce the volume level.

## 4. SPECIFICATIONS

### Loudspeaker

Tweeter	Ø 38 mm (1.5"), 4 Ω
Woofer	Ø 100 mm (4"), 4 Ω

### Audio inputs

Input 1	1/8" TRS stereo, input level -10 dBm, 10 kΩ
Input 2	2 RCA stereo, input level -10 dBm, 10 kΩ
Mic	1/4" TRS, input level -50 dBm, 50 Ω

### System specifications

Output power	2 x 8 Watts
Frequency response	80 Hz to 20 kHz

### Power supply

Mains voltages	USA/Canada 120 V~, 60 Hz Europe/U.K./Australia 230 V~, 50 Hz Japan 100 V~, 50 - 60 Hz General export model 120/230 V~, 50 - 60 Hz
Power consumption	0.14 A (230 V), 0.28 A (120 V), 0.33 A (100 V)

### Physical

Dimensions (H x W x D)	5 1/2" (140 mm) x 5 9/10" (150 mm) x 9 1/2" (241 mm)
Weight	right: 2.1 kg (4 2/3 lbs), left: 1.4 kg (3 lbs)

BEHRINGER is constantly striving to maintain the highest professional standards. As a result of these efforts, modifications may be made from time to time to existing products without prior notice. Specifications and appearance may differ from those listed or illustrated.

## 5. WARRANTY

### § 1 WARRANTY CARD/ONLINE REGISTRATION

To be protected by the extended warranty, the buyer must complete and return the enclosed warranty card within 14 days of the date of purchase to BEHRINGER Spezielle Studiotechnik GmbH, in accordance with the conditions stipulated in § 3. Failure to return the card in due time (date as per postmark) will void any extended warranty claims. Based on the conditions herein, the buyer may also choose to use the online registration option via the Internet ([www.behringer.com](http://www.behringer.com) or [www.behringer.de](http://www.behringer.de)).

### § 2 WARRANTY

1. BEHRINGER (BEHRINGER Spezielle Studiotechnik GmbH including all BEHRINGER subsidiaries listed on the enclosed page, except BEHRINGER Japan) warrants the mechanical and electronic components of this product to be free of defects in material and workmanship for a period of one (1) year\* from the original date of purchase, in accordance with the warranty regulations described below. If the product shows any defects within the specified warranty period that are not excluded from this warranty as described under § 3 and 4, BEHRINGER shall, at its discretion, either replace or repair the product using suitable new or reconditioned parts. In the case that other parts are used which constitute an improvement, BEHRINGER may, at its discretion, charge the customer for the additional cost of these parts.

2. If the warranty claim proves to be justified, the product will be returned to the user freight prepaid.

3. Warranty claims other than those indicated above are expressly excluded.

### § 3 RETURN AUTHORIZATION NUMBER

1. To obtain warranty service, the buyer (or his authorized dealer) must call BEHRINGER (see enclosed list) during normal business hours **BEFORE** returning the product. All inquiries must be accompanied by a description of the problem. BEHRINGER will then issue a return authorization number.

2. Subsequently, the product must be returned in its original shipping carton, together with the return authorization number to the address indicated by BEHRINGER.

3. Shipments without freight prepaid will not be accepted.

### § 4 WARRANTY REGULATIONS

1. Warranty services will be furnished only if the product is accompanied by a copy of the original retail dealer's invoice. Any product deemed eligible for repair or replacement under the terms of this warranty will be repaired or replaced.

2. If the product needs to be modified or adapted in order to comply with applicable technical or safety standards on a national or local level, in any country which is not the country for which the product was originally developed and manufactured, this modification/adaptation shall not be considered a defect in materials or workmanship. The warranty does not cover any such modification/adaptation, irrespective

of whether it was carried out properly or not. Under the terms of this warranty, BEHRINGER shall not be held responsible for any cost resulting from such a modification/adaptation.

3. Free inspections and maintenance/repair work are expressly excluded from this warranty, in particular, if caused by improper handling of the product by the user. This also applies to defects caused by normal wear and tear, in particular, of faders, cross-faders, potentiometers, keys/buttons, tubes and similar parts.

4. Damages/defects caused by the following conditions are not covered by this warranty:

- ▲ improper handling, neglect or failure to operate the unit in compliance with the instructions given in BEHRINGER user or service manuals.
- ▲ connection or operation of the unit in any way that does not comply with the technical or safety regulations applicable in the country where the product is used.
- ▲ damages/defects caused by force majeure or any other condition that is beyond the control of BEHRINGER.

5. Any repair or opening of the unit carried out by unauthorized personnel (user included) will void the warranty.

6. If an inspection of the product by BEHRINGER shows that the defect in question is not covered by the warranty, the inspection costs are payable by the customer.

7. Products which do not meet the terms of this warranty will be repaired exclusively at the buyer's expense. BEHRINGER will inform the buyer of any such circumstance. If the buyer fails to submit a written repair order within 6 weeks after notification, BEHRINGER will return the unit C.O.D. with a separate invoice for freight and packing. Such costs will also be invoiced separately when the buyer has sent in a written repair order.

### § 5 WARRANTY TRANSFERABILITY

This warranty is extended exclusively to the original buyer (customer of retail dealer) and is not transferable to anyone who may subsequently purchase this product. No other person (retail dealer, etc.) shall be entitled to give any warranty promise on behalf of BEHRINGER.

### § 6 CLAIM FOR DAMAGES

Failure of BEHRINGER to provide proper warranty service shall not entitle the buyer to claim (consequential) damages. In no event shall the liability of BEHRINGER exceed the invoiced value of the product.

### § 7 OTHER WARRANTY RIGHTS AND NATIONAL LAW

1. This warranty does not exclude or limit the buyer's statutory rights provided by national law, in particular, any such rights against the seller that arise from a legally effective purchase contract.

2. The warranty regulations mentioned herein are applicable unless they constitute an infringement of national warranty law.

\* Customers in the European Union please contact BEHRINGER Germany Support for further details.

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